

Appl. No. 10/058,519
Amdt. dated 07/29/2004
Reply to Office Action of 04/29/2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 29 (canceled)

Claim 30 (new): A railroad rail breaking apparatus for being mounted on the arm of a vehicle and for breaking rails of the type having an integrally-formed wearing flange, rail web and base flange, and comprising:

(a) a first member having a first jaw on a first end thereof, and a mounting attachment on a second end remote from the first jaw for permitting the rail breaking apparatus to be mounted onto the vehicle arm, the first jaw including a first hardened rail breaking insert mounted thereon for engaging a first side of the wearing flange;

(b) a second member pivotally mounted for movement about a pivot axis, the second member including a second jaw having a second hardened rail breaking insert thereon for engaging a second side of the wearing flange opposite the first side of the wearing flange, the first and second inserts being shaped and adapted to receive only a single rail in an orientation for engagement of only the wearing flange of the single rail without engagement with the rail web and base flange;

Appl. No. 10/058,519
Amdt. dated 07/29/2004
Reply to Office Action of 04/29/2004

(c) the second jaw being movable about the first pivot axis relative to the first jaw between a relatively open, wearing flange receiving position and a rail breaking position in which the first rail breaking insert of the first jaw and the second rail breaking insert of the second jaw hold the wearing flange in a wear breaking position by cooperation of the first and second members;

(d) power means mounted for cooperation with the first and second members for moving the first and second jaws relative to each other; and

(e) wherein as the first and second jaws move from the wearing flange receiving position to the wearing flange breaking position, the wearing flange, rail web and base flange of the rail is broken by a breaking force supplied by the power means only to the wearing flange.

Claim 31 (new): A railroad rail breaking apparatus according to claim 30, wherein the power means comprises a piston and cylinder assembly.

Claim 32 (new): A railroad rail breaking apparatus according to claim 31, wherein the piston and cylinder assembly is powered by the vehicle to which the rail breaking apparatus is attached in use.

Appl. No. 10/058,519
Amdt. dated 07/29/2004
Reply to Office Action of 04/29/2004

Claim 33 (new): A railroad rail breaking apparatus according to 30, wherein the length of the first jaw and the second jaw is at least the height of the wearing flange of the rail being broken.

Claim 34 (new): A railroad rail breaking apparatus according to 30, wherein the mounting attachment includes an attachment pivot mounting having an axis of rotation perpendicular to the axis of rotation of the first pivot axis for permitting rotation of the apparatus about an axis perpendicular to the axis of rotation of the first pivot axis.

Claim 35 (new): A railroad rail breaking apparatus according to claim 30, in combination with a vehicle having an articulating arm to which the apparatus is attached.

Claim 36 (new): A railroad rail breaking apparatus for being mounted on an articulating arm of a vehicle and for breaking rails of the type having an integrally-formed wearing flange, rail web and base flange, and comprising:

(a) a first member having a first jaw on a first end thereof, and a mounting attachment on a second end remote from the first jaw for permitting the rail breaking

Appl. No. 10/058,519
Amdt. dated 07/29/2004
Reply to Office Action of 04/29/2004

apparatus to be mounted onto the vehicle arm, the first jaw including a first hardened rail breaking insert mounted thereon for engaging a first side of the wearing flange, the vehicle having an articulating arm to which the apparatus is attached;

(b) a second member pivotally mounted for movement about a pivot axis, the second member including a second jaw having a second hardened rail breaking insert thereon for engaging a second side of the wearing flange opposite the first side of the wearing flange, the first and second inserts being shaped and adapted to receive only a single rail in an orientation for engagement of only the wearing flange of the single rail without engagement with the rail web and base flange;

(c) the second jaw being movable about the first pivot axis relative to the first jaw between a relatively open, wearing flange receiving position and a rail breaking position in which the first rail breaking insert of the first jaw and the second rail breaking insert of the second jaw hold the wearing flange in the wear breaking position by cooperation of the first and second members;

(d) power means mounted for cooperation with the first and second members for moving the first and second jaws relative to each other;

(e) wherein the axis of rotation of the mounting attachment intersects with the axis of rotation of the perpendicular first pivot axis of the second member for maintaining the first and second jaws in a stationary position relative to the article as the apparatus is pivoted about the axis of rotation of the attachment pivot; and

Appl. No. 10/058,519
Amdt. dated 07/29/2004
Reply to Office Action of 04/29/2004

(f) wherein as the first and second jaws move from the wearing flange receiving position to the wearing flange breaking position, the wearing flange, rail web and base flange of the rail are broken by a breaking force supplied by the power means only to the wearing flange.

Claim 37 (new): A method of breaking a railroad rail of the type having an integrally-formed wearing flange, rail web and base flange, comprising the steps of:

(a) providing:

(i) a first jaw including a first hardened rail breaking insert mounted thereon for engaging a first side of the wearing flange;

(ii) a second jaw mounted relative to the first jaw; and having a second hardened rail breaking insert thereon for engaging a second side of the wearing flange opposite the first side of the wearing flange, the first and second inserts being shaped and adapted to receive only a single rail in an orientation for engagement of only the wearing flange of the single rail without engagement with the rail web and base flange;

(iii) the second jaw being movable relative to the first jaw between a relatively open, wearing flange receiving position in which the first rail breaking insert of the first jaw and the second rail breaking insert of the second jaw hold the wearing flange in the wear breaking position by cooperation of the first and second members; and

Appl. No. 10/058,519
Amdt. dated 07/29/2004
Reply to Office Action of 04/29/2004

(iv) power means mounted for moving the first and second jaws relative to each other;

(b) positioning the first and second jaws on opposite sides of the wearing flange of a single rail to be broken;

(c) engaging only the wearing flange between the first and second rail breaking inserts;

(d) applying force to the wearing flange with the power means to break the wearing flange, rail web and base flange; and

(e) repeating steps (b) through (d).

Claim 38 (new): A method according to claim 37, wherein the step of positioning the first and second jaws on opposite sides of the wearing flange of a single rail to be broken includes the step of positioning the first and second jaws on a railway rail in situ on a railway bed.

Claim 39 (new): A method according to claim 37, and including the step of mounting the rail breaking apparatus on a vehicle alongside the railway bed.

Appl. No. 10/058,519
Amdt. dated 07/29/2004
Reply to Office Action of 04/29/2004

Claim 40 (new): A method according to claim 37, and including the step of mounting the rail breaking apparatus on a vehicle positioned on the railway for movement along the railway bed as the rails of the railway bed are broken.

Claim 41 (new): A method according to claim 37, and including the steps of:

- (a) selecting rails to be broken from a scrap pile comprised of a plurality of rails previously removed from a railway bed; and
- (b) tilting rails not oriented with the wearing flange directed in an upright position into an upright position for being received into the first and second jaws.

Claim 42 (new): A railroad rail breaking apparatus for breaking rails of the type having an integrally-formed wearing flange, rail web and base flange, and comprising:

- (a) a first jaw including a first hardened rail breaking insert mounted thereon for engaging a first side of the wearing flange;
- (b) a second jaw mounted relative to the first jaw, and having a second hardened rail breaking insert thereon for engaging a second side of the wearing flange opposite the first side of the wearing flange, the first and second inserts being shaped and adapted to

Appl. No. 10/058,519
Amdt. dated 07/29/2004
Reply to Office Action of 04/29/2004

receive only a single rail in an orientation for engagement of only the wearing flange of the single rail without engagement with the rail web and base flange;

(c) the second jaw mounted for movement relative to the first jaw between a relatively open, wearing flange receiving position and a wear breaking position in which the first rail breaking insert of the first jaw and the second rail breaking insert of the second jaw hold the wearing flange by cooperation of the first and second members; and

(d) wherein as the first and second jaws move from the wearing flange receiving position to a wearing flange breaking position, the wearing flange, rail web and base flange of the rail are broken by a breaking force supplied by the power means only to the wearing flange.

Appl. No. 10/058,519
Amdt. dated 07/29/2004
Reply to Office Action of 04/29/2004

Amendments to the Drawings:

None.